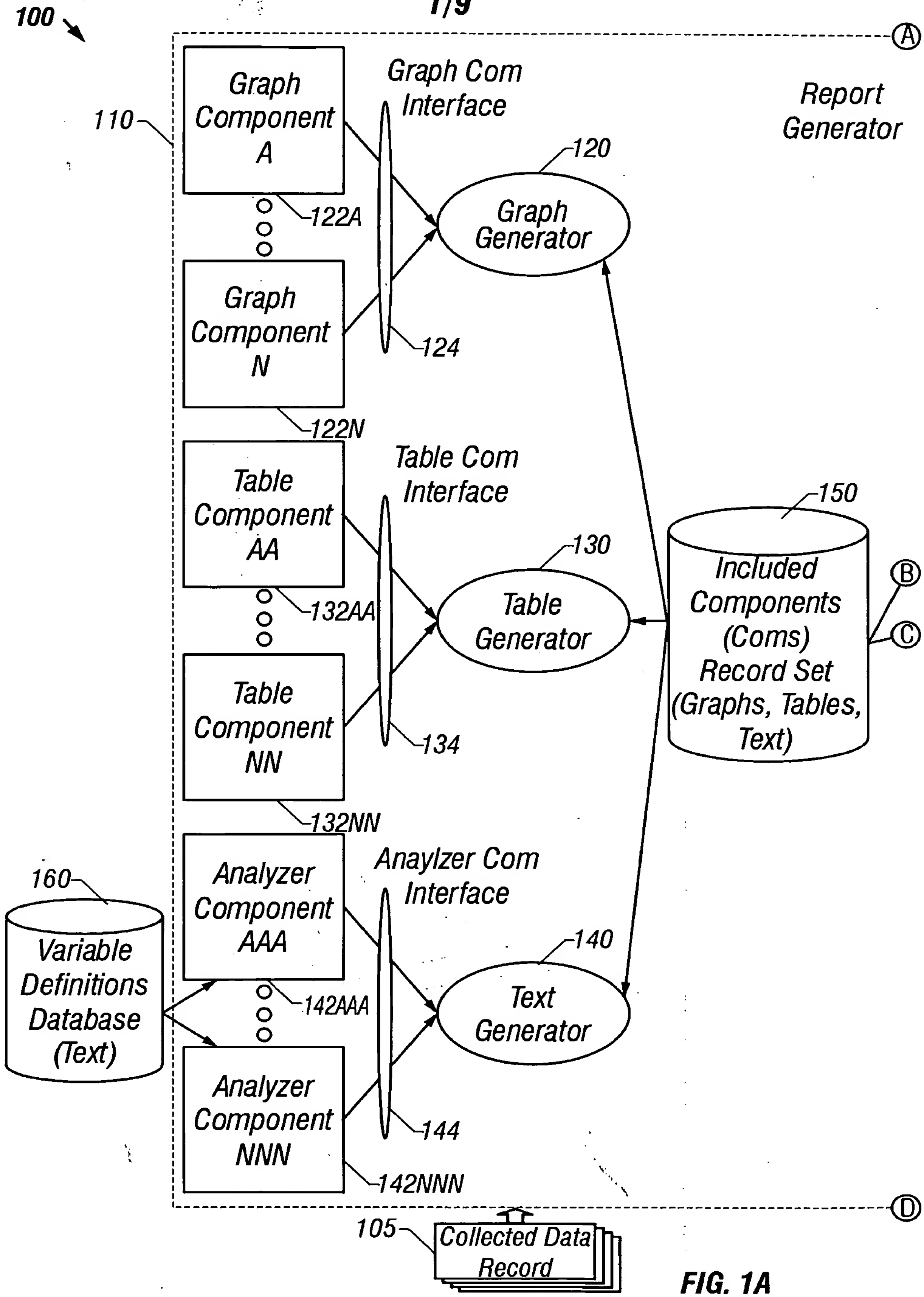


FIG. 1A

10005480 . 062501

09945292 .083101

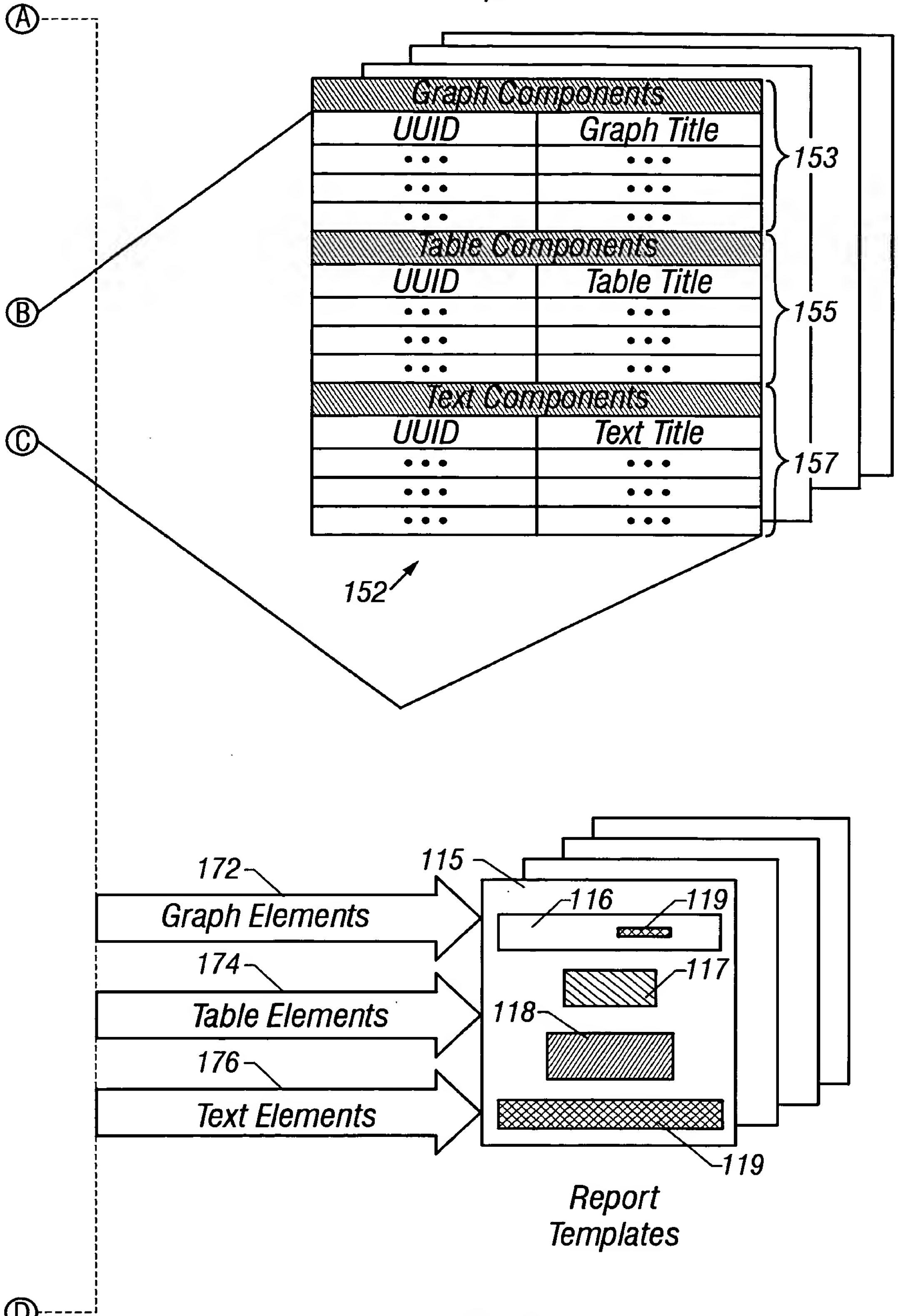


FIG. 1B

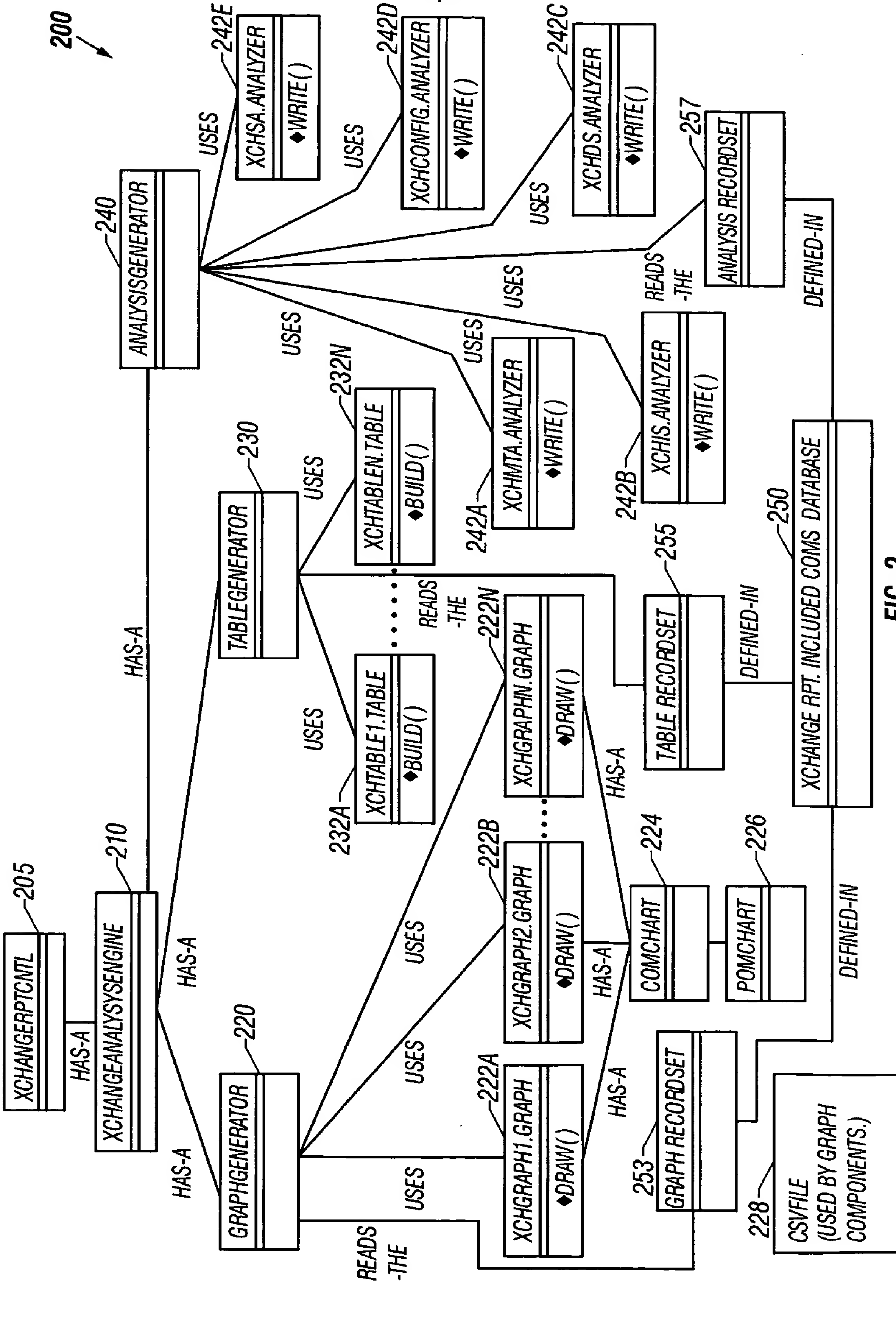

200
XCHANGERPTCNTL
205
HAS-A
XCHANGEANALYSYSENGINE
210
HAS-A
HAS-A
HAS-A
ANALYSISGENERATOR
240
TABLEGENERATOR
230
GRAPHGENERATOR
220
USES
XCHSA.ANALYZER
◆WRITE( )
242E
XCHCONFIG.ANALYZER
◆WRITE( )
242D
XCHDS.ANALYZER
◆WRITE( )
242C
XCHMTA.ANALYZER
◆WRITE( )
242A
XCHIS.ANALYZER
◆WRITE( )
242B
ANALYSIS RECORDSET
257
READS -THE
DEFINED-IN
XCHTABLEN.TABLE
◆BUILD( )
232N
XCHTABLE1.TABLE
◆BUILD( )
232A
TABLE RECORDSET
255
XCHANGE RPT. INCLUDED COMS DATABASE
250
XCHGRAPHN.GRAPH
◆DRAW( )
222N
XCHGRAPH2.GRAPH
◆DRAW( )
222B
XCHGRAPH1.GRAPH
◆DRAW( )
222A
COMCHART
224
POMCHART
226
GRAPH RECORDSET
253
CSVFILE (USED BY GRAPH COMPONENTS.)
228

FIG. 2

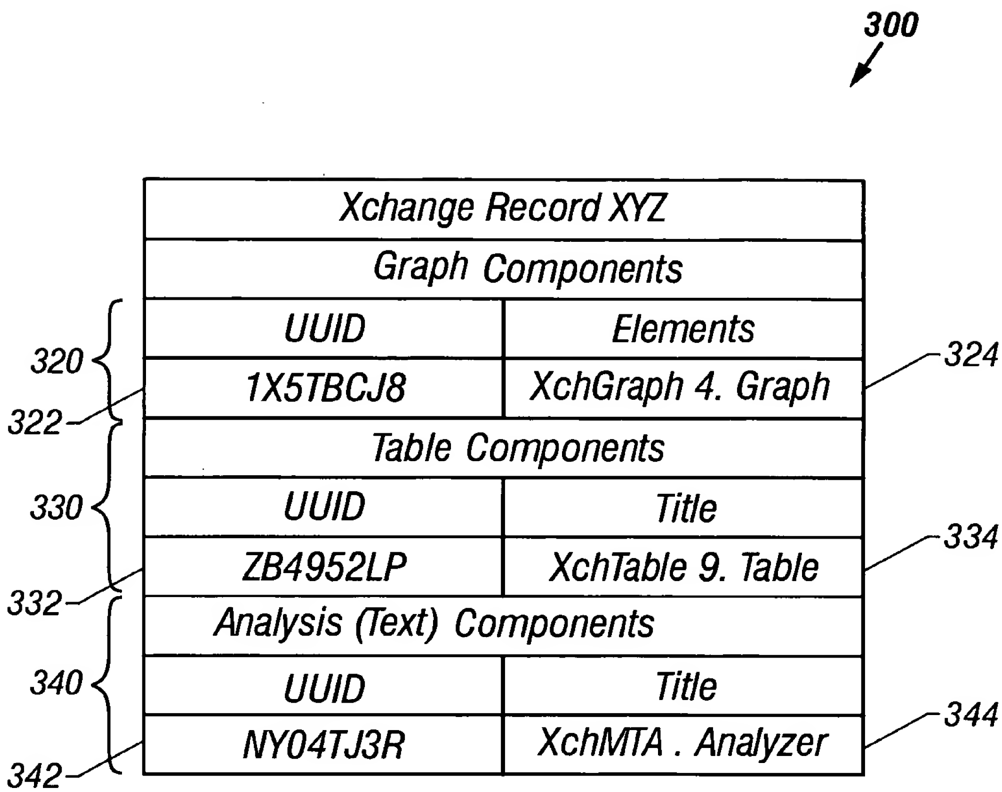

300
Xchange Record XYZ
Graph Components
UUID
Elements
1X5TBCJ8
XchGraph 4. Graph
Table Components
UUID
Title
ZB4952LP
XchTable 9. Table
Analysis (Text) Components
UUID
Title
NY04TJ3R
XchMTA . Analyzer
320
322
324
330
332
334
340
342
344

FIG. 3

Variable	Output Text
411 MTALoad_Q_Peak_No_Prob_Findings	No excessive peaks were detected in the MTA work queue. 412
413 MTALoad_Q_Peak_No_Prob_Recommendations	No changes are recommended. 414
415 MTALoad_Q_Peak_Prob_Findings	One or more significant peaks occurred in the MTA work queue. The likely source of these peaks is a communication problem between the MTA and another Exchange component on this server, a connector, or a remote Exchange MTA. 416
417 MTALoad_Q_Peak_Prob_Recommendations	(1) Verify that all servers with large backlogged MTA queues bound for them are accessible over the network. (2) Verify that all Exchange services, including the MTA, are up and running on all servers in the organization. (3) Check the application event log in chapter 6 for additional information on specific errors. 418

FIG. 4

Message Transfer Agent Background

The message Transfer Agent (MTA) is responsible for managing messages that must be transferred to or from a non-local e-mail server. This includes other Exchange servers and non-Exchange e-mail servers (Lotus Notes, SMTP, cc:Mail, etc.). The MTA also manages distribution lists for messages.

MTA queue lengths provide a general indication of Exchange performance. In general, on a well configured Exchange server, the queues will be close to 0. On a system exceeding its capacities, the queue will approach 2. Should a queue length regularly exceed 2, the system will be perceptibly slow.

While high queue times may indicate a problem with Exchange, a backlog of messages on the MTA may actually be an indication of a problem elsewhere in the system. Typically, these other problems include connectivity problems with other servers, including the following:

- *There may be network problems prohibiting data transfer.*
- *There may be network security issues (site connectors between two domains with different service accounts).*
- *Other Exchange systems may be shut down or their Exchange services may be stopped.*

An additional factor that affects MTA performance is the amount of external mail being processed by the server. Because Exchange handles internal mail (mail sent to a recipient on the same server) more efficiently and faster than external mail, high levels of external mail increase the amount of MTA-dependent processes.

510A

Analysis

*Our analysis of the Message Transfer Agent consisted of examining the lengths of <**Name Field**> MTA queues and the periods of peak MTA queue length.* 515A

Selected Data

*Graph 1 - **MTA Work Queue Length**. The **MTA Queue Length** is the one-hour average number of outstanding messages in the MTA queue that had not been processed to completion. The **High Queue Length** represents the highest value monitored during each hour. This counter provides an overall health rating for the MTA.* 510B

510C ***Message Transfer Agent Queue Length***

<XCHGRAPH 4.Graph Field> 530A

FIG. 5A

510D

The folllowing table lists the eight time periods in Graph 1 with the highest MTA queue lengths. The times shown reflect the end of the hour in which a peak value occurred.

One-hour Periods in which Peak MTA Queue Lengths Occurred

<XCHGTABLE 9.Table Field> 540A

510E

Findings and recommendations Regarding the Message Transfer Agent

During the monitored period, <XCHMTA.ANALYZER_1 Field> 520A

510F *Recommended actions are to <XCHMTA.ANALYZER_2 Field>* 520B

FIG. 5B

Agent

Background

The Message Transfer Agent (MTA) is responsible for managing messages that must be transferred to or from a non-local e-mail server. This includes other Exchange servers and non-Exchange e-mail servers (Lotus Notes, SMTP, cc:Mail, etc.). The MTA also manages distribution lists for messages.

MTA queue lengths provide a general indication of Exchange performance. In general, on a well configured Exchange server, the queues will be close to 0. On a system exceeding its capacities, the queue will approach 2. Should a queue length regularly exceed 2, the system will be perceptibly slow.

While high queue times may indicate a problem with Exchange, a backlog of messages on the MTA may actually be an indication of a problem elsewhere in the system. Typically, these other problems include connectivity problems with other servers, including the following:

- There may be network problems prohibiting data transfer.
- There may be network security issues (site connectors between two domains with different service accounts).
- Other Exchange systems may be shut down or their Exchange services may be stopped.

An additional factor that affects MTA performance is the amount of external mail being processed by the server. Because Exchange handles internal mail (mail sent to a recipient on the same server) more efficiently and faster than external mail, high levels of external mail increase the amount of MTA-dependent processes. 610A

Analysis

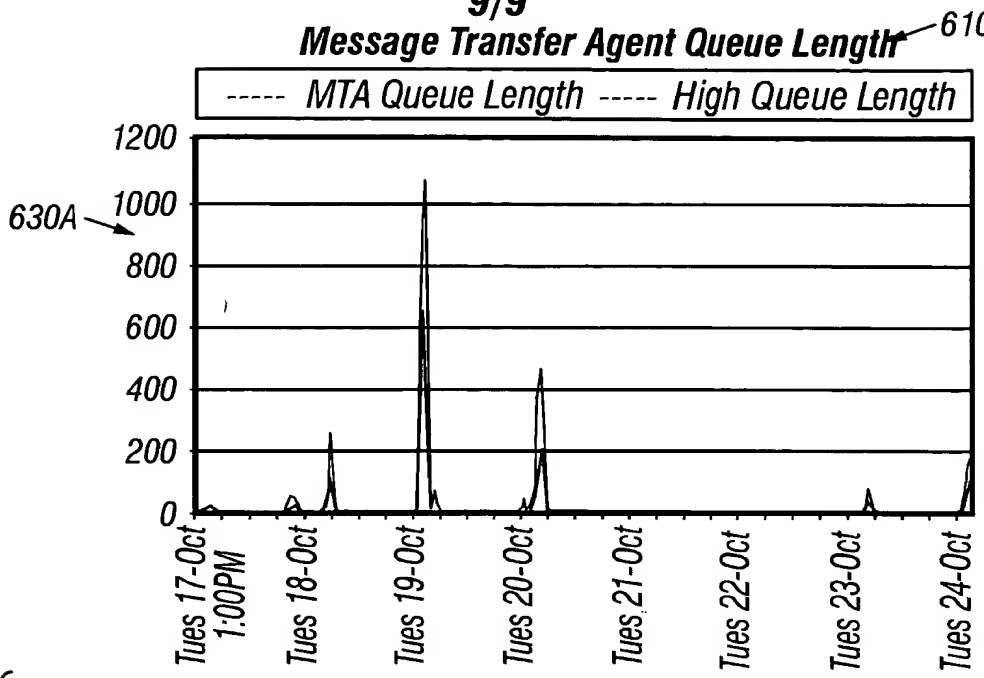
Our analysis of the Message Transfer Agent consisted of examining the lengths of XBO104's MTA queues and the periods of peak MTA queue length. 620A

Selected Data

Graph 1 - MTA Work Queue Length. The **MTA Queue Length** is the one-hour average number of outstanding messages in the MTA queue that had not been processed to completion. The **High Queue Length** represents the highest value monitored during each hour. This counter provides an overall health rating for the MTA. 610B

FIG. 6A

610C



610D The following table lists the eight time periods in Graph 1 with the highest MTA queue lengths. The times shown reflect the end of the hour in which a peak value occurred.

One-hour Periods in which Peak MTA Queue Lengths Occurred

640A

DATE	END TIME OF ONE-HOUR PERIOD IN WHICH PEAK VALUE OCCURRED:	PEAK GRAPH LENGTH
10/13/00	6:00 PM	250.7
10/14/00	2:00 PM	820.5
10/14/00	3:00 PM	1066.9
10/15/00	3:00 PM	95.1
10/15/00	4:00 PM	401.9
10/15/00	5:00 PM	448.9
10/18/00	5:00 PM	72.3
10/19/00	3:00 PM	172.1

610E **Findings and Recommendations regarding the Message Transfer Agent**

During the monitored period, one or more significant peaks occurred in the MTA work queue. The likely source of these peaks is a communication problem between the MTA and another Exchange component on this server, a connector, or a remote Exchange MTA. 620E

610F Recommended actions are to(1)Verify that all servers with large backlogged MTA queues bound for them are accessible over the network. (2)Verify that all Exchange services, including the MTA, are up and running on all servers in the organization.(3)Check the application event log in chapter 6 for additional information on specific errors. 620B

FIG. 6B